

CLAIMS

What is claimed is:

1. A portable flight timer for use in aviation comprising:
 - a display system;
 - 5 a memory system;
 - at least one alarm element;
 - an oscillator;
 - a controller with at least one of a peripheral or integral counter; and
 - a first input element for sending user actuated signals to the controller wherein the
 - 10 controller is connected to the display system, the alarm element and the memory system
 - and wherein a user can store a plurality of approach times into the memory and the
 - approach times can be recalled and displayed simultaneously by the display system with an
 - indicator having a relationship to approach times to inform a user that the time displayed is
 - an approach time.
 - 15
2. The flight timer of claim 1 wherein the plurality of approach times can each be
 - associated with a unique identifier displayable by the display system simultaneously with
 - the corresponding approach time and wherein the at least one of a peripheral or integral
 - counter can be engaged to produce a countdown sequence starting from the corresponding
 - 20 stored approach time.

3. The flight timer of claim 2 wherein the flight timer is capable of driving a second counting sequence simultaneously with, but independently from, the countdown sequence. the second counting sequence being displayable in association with information indicating the relationship of the second counting sequence to fuel.

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4. The flight timer of claim 3 wherein the flight timer is capable of driving a third counting sequence simultaneously with, but independently from the countdown sequence and the second counting sequence.

10 5. The flight timer of claim 4 further comprising a programmable note that is displayable by said display system simultaneously with any of the countdown sequence, second counting sequence and third counting sequence.

15 6. The flight timer of claim 2 wherein the controller is configured to activate the alarm element when the countdown sequence reaches a value of zero.

7. The flight timer of claim 6 wherein there are at least two alarm elements with a first alarm element that produces an audible signal and a second alarm element that is a light.

20 8. The flight timer of claim 7 wherein when the first alarm element and second alarm elements are activated, at least one or more positions on the display flashes.

9. The flight timer of claim 8 wherein there are a plurality of application modes of the flight timer and wherein when the alarm is activated at least one position of the display will flash regardless of the application mode selected by a user until the alarm is stopped by a user by actuating a switch of the flight timer.

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10. The flight timer of claim 2 further comprising a dial coupled to the first input element, the dial being operable to actuate the first input element to send signals to the controller.

10 11. The flight timer of claim 10 further comprising at least a second input element that can be actuated to display said second counting sequence and to deactivate the display of the countdown sequence.

12. The flight timer of claim 11 further comprising at least a third button that can be
15 actuated to display a clock driven by a counter of the flight timer to produce a time counting sequence independent from the countdown sequence and second counting sequence.

13. The flight timer of claim 12 wherein said clock has three display modes selectable
20 by a user, with each display mode displaying hours, minutes and seconds and with each display mode being interdependent with the other of the said display modes in that setting any one of the minutes and seconds on a first display mode also sets minutes and seconds

on the other of the display modes, and with at least the hour setting of at least one of the three display modes being independent of the hours setting of the other of said display modes.

5 14. The flight timer of claim 2 further comprising an attachment member connected to a back portion of the flight timer for attaching the flight timer to a surface.

15. The flight timer of claim 14 wherein the attachment member is a clip.

10 16. A method of piloting an aircraft using a portable timer comprising:
entering and storing a plurality of approach times in a memory of the portable timer;
associating at least one of said approach times with a unique identifier displayable
on a display of the portable timer; and
selecting at least one of said approach times and initiating a first countdown
15 sequence from the approach time using the portable timer while piloting said aircraft during
a landing approach and monitoring the first countdown sequence to determine whether the
approach should be aborted.

17. The method of claim 16 wherein a fuel tank switching time can be entered into the
20 memory of the portable timer and a second countdown sequence can be driven by the
portable timer to count down the entered fuel tank switching time and wherein a first
indicator can be displayed by the portable timer that indicates a relationship of the first

countdown sequence to approach time and a second indicator can be displayed by the portable timer to indicate a relationship of the second countdown sequence to fuel.

18. The method of claim 16 further comprising displaying a note on the portable timer,
5 said note having static numerical data.

19. The method of claim 18 wherein the static numerical data is entered into the portable timer by a user to record at least one of a transponder code, future clearance altitude, cruising altitude, critical approach altitude and radio frequency.

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20. The method of claim 16 further comprising initiating a second countdown sequence to monitor time between fuel tank switching using the portable timer, said second countdown sequence being initiated at a point in time before or after initiation of the first countdown sequence and said second counting sequence being driven simultaneously and
15 independently by the portable timer.

21. The method of claim 16 further comprising initiating a countup sequence using the portable timer to monitor a time between travel points, said countup sequence being initiated at a point in time before or after initiation of the first countdown sequence.

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22. The method of claim 16 further comprising viewing a clock on the portable timer.

23. The method of claim 16 further comprising adjusting a dial on the portable timer to enter and store said approach times.

24. A portable timer for use in timing events in aviation, said portable timer
5 comprising:

at least one of a microcontroller and processor;

a memory system;

an LCD;

an oscillator and counter; and

10 an input element, wherein the portable timer is configured to be capable of driving at least two counting sequences simultaneously that can be stopped and started independently and to be capable of displaying each of said counting sequences on the LCD, said portable timer also being configured to display a different indicator on the LCD with each of said counting sequences, said different indicators each bearing a relationship to one
15 of a fuel tank switching time and approach time for an aircraft.

25. The portable timer of claim 24 wherein the portable timer is configured to be capable of driving at least three counting sequences simultaneously that can be stopped and started independently.

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26. The portable timer of claim 24 wherein each of the counting sequences can be at least one of a countdown sequence and count-up sequence.

27. The portable timer of claim 26 wherein when a countdown sequences reaches zero, the portable timer automatically initiates a count-up sequence starting from zero.
28. The portable timer of claim 26 wherein a plurality of values can be stored in the
5 memory with each stored value being usable as a starting point for a countdown sequence.
29. A flight timer comprising:
a controller configured to allow said flight timer to operate in at least four different application modes with each application mode driving different associated display
10 indicators on an LCD and with at least two of the application modes being usable to initiate countdown and count-up sequences, at least one other of the application modes being useable to initiate count-up sequences and with at least one other of the application modes being programmed to display time in at least two different time formats;
a dial operable by a user to send signals to the controller; and
15 a memory capable of storing a plurality of values entered by a user that can be recalled by rotating the dial such that a count down sequence can be initiated starting from a stored value in at least one of the application modes.
30. The flight timer of claim 29 wherein the at least one of the application modes being
20 programmed to display time can display time in at least three different time formats, including standard time, UTC time and military time.

31. The flight timer of claim 29 wherein at least one of the application modes is configured to countdown fuel tank switching time and automatically initiates a count-up sequence once a countdown sequences reaches zero.
- 5 32. The flight timer of claim 31 wherein at least one other of the applicant modes is configured to countdown approach time and automatically initiates a count-up sequence once a countdown sequence in the application mode reaches zero.
33. The flight timer of claim 29 wherein at least twelve values usable as starting values
10 for countdown sequences in at least one of the application modes can be entered and stored into the memory.
34. The flight timer of claim 29 wherein more than twelve values usable as starting values for countdown sequences in at least one of the application modes can be entered and
15 stored into the memory.
35. The flight timer of claim 29 further comprising an attachment member that can be used to releasably couple the flight timer to surface.
- 20 36. The flight timer of claim 35 wherein the surface comprises at least a portion of at least one of a belt, strap, clipboard and dash of an aircraft.

37. The flight timer of claim 35 wherein the attachment member is a clip.